SEQUENCE LISTING

<110> Winchester , Robert J.
Gulko, Percio
Seki, Tetsunori

<120> USES OF INHIBITORS FOR THE ACTIVATION OF CXCR4 RECEPTOR BY SDF-1 IN TREATING-RHEVMATOID ARTHRITIS

<130> 0575/57005-B

<140> 09/500,746
<141> 2000-02-09

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<170> PatentIn version 3.1

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<210> 9
<211> 507
<212> PRT
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<222> (337)..(337)
<223> x= to any amino acid

<220>
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<223> x= to any amino acid

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1 5 10 15

Gly Pro Phe Ala His Lys Glu Gly Pro Asn His Gln Leu Ile Ser Tyr
20 25 30

Gln Gly Arg Ile Pro Tyr Pro Arg Ser Ala Val Cys Val Tyr His Leu
35 40 45

Ser Asp Ile Gln Thr Val Phe Asn Gly Pro Phe Ala His Lys Glu Gly

50 55 60

Pro Asn His Gln Leu Ile Ser Tyr Gln Gly Arg Ile Pro Tyr Pro Arg
65 70 75 80

Ser Ala Val Cys Val Tyr Ser Met Ala Asp Ile Arg Met Val Phe Asn
85 90 95

Gly Pro Phe Ala His Lys Glu Gly Pro Asn Tyr Gln Trp Met Pro Phe
100 105 110

Ser Gly Lys Met Pro Tyr Pro Arg Ser Ala Val Cys Val Tyr Ser Met
115 120 125

Asn Asp Val Arg Arg Ala Phe Leu Gly Pro Phe Ala His Lys Glu Gly
130 135 140

Pro Met His Gln Trp Val Ser Tyr Gln Gly Arg Val Pro Tyr Pro Arg
145 150 155 160

Ser Ala Val Cys Met Tyr Ser Met Ser Asp Val Arg Arg Val Arg Arg
165 170 175

Val Phe Leu Gly Pro Tyr Ala His Arg Asp Gly Pro Asn Tyr Gln Trp
180 185 190

Val Pro Tyr Gln Gly Arg Val Pro Tyr Pro Arg Pro Gly Thr Cys Pro
195 200 205

Gly Gly Ala Phe Thr Pro Asn Met Arg Thr Thr Lys Asp Phe Pro Asp
210 215 220

Asp Val Val Thr Phe Ile Arg Asn His Pro Leu Met Tyr Asn Ser Ile
225 230 235 240

Ser Pro Ile Pro Gly Thr Cys Pro Gly Gly Ala Leu Thr Pro Asn Met
245 250 255

Arg Thr Thr Lys Glu Phe Pro Asp Asp Val Val Thr Phe Ile Arg Asn
260 265 270

His Pro Leu Met Tyr Asn Ser Ile Tyr Pro Ile Pro Gly Thr Cys Pro
275 280 285

Gly Gly Thr Phe Thr Pro Ser Met Lys Ser Thr Lys Asp Tyr Pro Asp
290 295 300

Glu Val Ile Asn Phe Met Arg Ser His Pro Leu Met Tyr Gln Ala Val
305 310 315 320

Tyr Pro Leu Pro Gly Met Cys Pro Ser Lys Thr Phe Gly Thr Phe Ser
325 330 335

Xaa Ser Thr Lys Asp Phe Pro Asp Asp Val Ile Phe Ala Arg Asn His
340 345 350

Pro Leu Met Tyr Asn Ser Val Leu Pro Thr Pro Gly Thr Cys Pro Ser
355 360 365

Lys Thr Phe Gly Gly Phe Asp Xaa Ser Thr Lys Asp Leu Pro Asp Asp
370 375 380

Val Ile Thr Phe Ala Arg Ser His Pro Ala Met Tyr Asn Pro Val Phe
385 390 395 400

Pro Met His Arg Arg Pro Leu Ile Val Arg Ile Gly Thr Asp Tyr Lys
405 410 415

Tyr Thr Lys Ile Ala Val Asp His Lys Arg Pro Leu Ile Val Arg Ile
420 425 430

Gly Thr Asp Tyr Lys Tyr Thr Lys Ile Ala Val Asp Gln Arg Arg Pro
435 440 445

Leu Val Val Arg Thr Gly Ala Pro Tyr Arg Leu Thr Thr Ile Ala Val
450 455 460

Asp Gly Gly Arg Pro Leu Phe Leu Gln Val Gly Ala Asn Tyr Thr Phe
465 470 475 480

Thr Gln Ile Ala Ala Asp Asn Asn Arg Pro Ile Val Ile Lys Thr Asp
485 490 495

Val Asn Tyr Gln Phe Thr Gln Ile Val Val Asp
500 505

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<211> 396
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<213> Human

<400> 10

Ser Tyr Pro Ala Pro His Gly Pro Glu Asp Pro Ala Pro Gln Phe Ala
1 5 10 15

His Met Phe Glu Asn Glu Ile Ser His Arg Thr Gly Ser Trp Asn Phe
20 25 30

Ala Pro Asn Pro Asp Lys Gln Trp Leu Leu Gln Arg Thr Ser His Ala
35 40 45

Ala Pro His Gly Pro Glu Asp Ser Ala Pro Gln Phe Ser Glu Leu Tyr
50 55 60

Pro Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn
65 70 75 80

Met Asp Lys His Trp Ile Met Gln Tyr Thr Ala Thr Pro Ala Pro His
85 90 95

Ser Pro Trp Thr Ala Ala Pro Gln Tyr Gln Lys Ala Phe Gln Asn Val
100 105 110

Phe Ala Pro Arg Asn Lys Asn Phe Asn Ile His Gly Thr Asn Lys His
115 120 125

Trp Leu Ile Arg Gln Ala Lys Gly Lys Met Asn Asp Val His Ile Ser
130 135 140

Phe Thr Asp Leu Leu His Arg Arg Arg Leu Gln Thr Leu Gln Ser Val
145 150 155 160

Asp Glu Gly Ile Glu Arg Leu Phe Asn Leu Leu Arg Glu Leu Asn Gln
165 170 175

Leu Trp Asn Thr Gly Pro Met Leu Pro Ile His Met Glu Phe Thr Asn
180 185 190

Ile Leu Gln Arg Lys Arg Leu Gln Thr Leu Met Ser Val Asp Asp Ser
195 200 205

Val Glu Arg Leu Tyr Asn Met Leu Val Glu Thr Gly Glu Leu Glu Asn
210 215 220

Thr Thr Pro Met Thr Asn Ser Ser Ile Gln Phe Leu Asp Asn Ala Phe
225 230 235 240

Arg Lys Arg Trp Gln Thr Leu Leu Ser Val Asp Asp Leu Val Glu Lys
245 250 255

Leu Val Lys Arg Leu Glu Phe Thr Gly Glu Leu Asn Asn Thr Tyr Ala
260 265 270

Ile Tyr Thr Ser Asp His Gly Tyr His Leu Gly Gln Phe Gly Leu Leu
275 280 285

Lys Gly Lys Asn Met Pro Tyr Glu Phe Asp Ile Arg Val Pro Phe Phe
290 295 300

Met Arg Gly Pro Gly Ile Pro Arg Tyr Ile Ile Tyr Thr Ala Asp His
305 310 315 320

Gly Tyr His Ile Gly Gln Phe Gly Leu Val Lys Gly Lys Ser Met Pro
325 330 335

Tyr Asp Phe Asp Ile Arg Val Pro Phe Phe Ile Arg Gly Pro Ser Val
340 345 350

Glu Pro Tyr Ile Phe Tyr Thr Ser Asp Asn Gly Tyr His Thr Gly Gln
355 360 365

Phe Ser Leu Pro Ile Asp Lys Arg Gln Leu Tyr Glu Phe Asp Ile Lys
370 375 380

Val Pro Leu Leu Val Arg Gly Pro Gly Ile Lys Pro
385 390 395

<210> 11
<211> 102
<212> PRT
<213> Human

<400> 11

Ser Ala Val Cys Val Tyr Tyr Ser Met Ala Asp Ile Arg Met Val Phe
1 5 10 15

Asn Gly Pro Phe Ala His Lys Glu Gly Pro Asn Tyr Gln Trp Met Pro
20 25 30

Phe Ser Gly Lys Met Pro Tyr Pro Arg Pro Gly Thr Cys Pro Gly Gly
35 40 45

Thr Phe Thr Pro Ser Met Lys Ser Thr Lys Asx Tyr Pro Asp Glu Val
50 55 60

Ile Asn Phe Met Arg Ser His Pro Leu Met Tyr Gln Ala Val Tyr Pro
65 70 75 80

Leu Gln Arg Arg Pro Leu Val Val Arg Thr Gly Ala Pro Tyr Arg Leu
85 90 95

Thr Thr Ile Ala Val Asp
100

<210> 12
<211> 101
<212> PRT
<213> Human

<220>
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<222> (54)..(54)
<223> X= to any amino acid

<400> 12

Ser Ala Val Cys Val Tyr Ser Met Asn Asp Val Arg Arg Ala Phe Leu
1 5 10 15

Gly Pro Phe Ala His Lys Glu Gly Pro Met His Gln Trp Val Ser Tyr
20 25 30

Gln Gly Arg Val Pro Tyr Pro Arg Pro Gly Met Cys Pro Ser Lys Thr
35 40 45

Phe Gly Thr Phe Ser Xaa Ser Thr Lys Asp Phe Pro Asp Asp Val Ile
50 55 60

Gln Phe Ala Arg Asn His Pro Lys Met Tyr Asn Ser Val Leu Pro Thr
65 70 75 80

Gly Gly Arg Pro Leu Phe Leu Gln Val Gly Ala Asn Tyr Thr Phe Thr
85 90 95

Gln Ile Ala Ala Asp
100

<210> 13
<211> 101
<212> PRT
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<223> X=to any amino acid

<400> 13

Ser Ala Val Cys Met Tyr Ser Met Ser Asp Val Arg Arg Val Phe Leu
1 5 10 15

Gly Pro Tyr Ala His Arg Asp Gly Pro Asn Tyr Gln Trp Val Pro Tyr
20 25 30

Gln Gly Arg Val Pro Tyr Pro Arg Pro Gly Thr Cys Pro Ser Lys Thr
35 40 45

Phe Gly Gly Phe Asp Xaa Ser Thr Lys Asp Leu Pro Asp Asp Val Ile
50 55 60

Thr Phe Ala Arg Ser His Pro Ala Met Tyr Asn Pro Val Phe Pro Met
65 70 75 80

Asn Asn Arg Pro Ile Val Ile Lys Thr Asp Val Asn Tyr Gln Phe Thr
85 90 95

Gln Ile Val Val Asp
100

<210> 14
<211> 90
<212> PRT
<213> Worm

<400> 14

Ser Tyr Pro Ala Pro His Gly Pro Glu Asp Pro Ala Pro Gln Phe Ala
1 5 10 15

His Met Phe Glu Asn Glu Ile Ser His Arg Thr Gly Ser Trp Asn Phe
20 25 30

Ala Pro Asn Pro Asp Lys Gln Trp Leu Leu Gln Arg Thr Gly Lys Met
35 40 45

Asn Asp Val His Ile Ser Phe Thr Asp Leu Leu His Arg Arg Arg Leu
50 55 60

Gln Thr Leu Gln Ser Val Asp Glu Gly Ile Glu Arg Leu Phe Asn Leu
65 70 75 80

Leu Arg Glu Leu Asn Gln Leu Trp Asn Thr
85 90

<210> 15
<211> 132

<212> PRT
<213> Worm

<400> 15

Ser His Ala Ala Pro His Gly Pro Glu Asp Ser Ala Pro Gln Phe Ser
1 5 10 15

Glu Leu Tyr Pro Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr
20 25 30

Ala Pro Asn Met Asp Lys His Trp Ile Met Gln Tyr Thr Gly Pro Met
35 40 45

Leu Pro Ile His Met Glu Phe Thr Asn Ile Leu Gln Arg Lys Arg Leu
50 55 60

Gln Thr Leu Met Ser Val Asp Asp Ser Val Glu Arg Leu Tyr Asn Met
65 70 75 80

Leu Val Glu Thr Gly Glu Leu Glu Asn Thr Tyr Ile Ile Tyr Thr Ala
85 90 95

Asp His Gly Tyr His Ile Gly Gln Phe Gly Leu Val Lys Gly Lys Ser
100 105 110

Met Pro Tyr Asp Phe Asp Ile Arg Val Pro Phe Phe Ile Arg Gly Pro
115 120 125

Ser Val Glu Pro
130

<210> 16
<211> 130
<212> PRT
<213> Human

<400> 16

Ala Thr Pro Ala Pro His Ser Pro Trp Thr Ala Ala Pro Gln Lys Ala
1 5 10 15

Phe Gln Asn Val Phe Ala Pro Arg Asn Lys Asn Phe Asn Ile His Gly
20 25 30

Thr Asn Lys His Trp Leu Ile Arg Gln Ala Lys Thr Pro Met Thr Asn
35 40 45

Ser Ser Ile Gln Phe Leu Asp Asn Ala Phe Arg Lys Arg Trp Gln Thr
50 55 60

Leu Leu Ser Val Asp Asp Leu Val Glu Lys Leu Val Lys Arg Leu Glu
65 70 75 80

Phe Thr Gly Glu Leu Asn Asn Thr Tyr Ile Phe Tyr Thr Ser Asp Asn
85 90 95

Gly Tyr His Thr Gly Gln Phe Ser Leu Pro Ile Asp Lys Arg Gln Leu
100 105 110

Tyr Glu Phe Asp Ile Lys Val Pro Leu Leu Val Arg Gly Pro Gly Ile
115 120 125

Lys Pro
130

<210> 17
<211> 410
<212> PRT
<213> Human

<400> 17

Gly Asn Asn Gly Ala Gly Thr Gly Thr Gly Gly Gly Ala Cys Gly Gly
1 5 10 15

Gly Gly Gly Gly Asn Gly Asn Ala Gly Asn Ala Ala Thr Thr Ala Ala
20 25 30

Gly Gly Thr Ala Gly Asn Gly Ala Thr Gly Gly Ala Gly Asn Ala Asn
35 40 45

Gly Gly Gly Gly Thr Gly Cys Asn Thr Asn Gly Gly Asn Asn Asn Ala
50 55 60

Gly Ala Asn Ala Asn Thr Gly Asn Asn Thr Gly Gly Ala Gly Ala Ala
65 70 75 80

Asn Gly Ala Cys Ala Ala Asn Gly Gly Gly Gly Gly Asn Gly Thr Cys
85 90 95

Gly Asn Asn Gly Gly Ala Gly Cys Asn Gly Asn Thr Gly Thr Gly Ala
100 105 110

Gly Thr Gly Gly Gly Ala Ala Gly Ala Ala Gly Gly Cys Asn Ala Cys
115 120 125

Gly Thr Cys Ala Ala Asn Ala Ala Gly Gly Ala Cys Gly Ala Ala Thr

130 135 140

Ala Thr Thr Thr Gly Cys Ala Ala Asn Gly Asn Asn Gly Asn Asn Cys
145 150 155 160

Ala Gly Gly Gly Cys Thr Gly Thr Asn Cys Asn Cys Gly Gly Gly Cys
165 170 175

Ala Gly Thr Thr Thr Gly Thr Ala Ala Ala Ala Ala Ala Ala Ala Ala
180 185 190

Ala Ala Asn Ala Ala Gly Ala Ala Cys Asn Gly Cys Gly Ala Cys Ala
195 200 205

Gly Ala Cys Ala Ala Gly Thr Gly Thr Asn Asn Gly Thr Thr Gly Ala
210 215 220

Cys Cys Cys Gly Ala Ala Gly Cys Asn Ala Asn Ala Gly Thr Gly Gly
225 230 235 240

Ala Thr Asn Cys Ala Gly Gly Ala Gly Thr Ala Cys Cys Thr Gly Gly
245 250 255

Ala Gly Asn Asn Ala Ala Cys Thr Ala Thr Gly Ala Ala Cys Ala Ala
260 265 270

Asn Thr Ala Ala Gly Cys Gly Cys Ala Ala Cys Ala Gly Cys Cys Ala
275 280 285

Ala Ala Gly Ala Gly Gly Ala Cys Thr Thr Asn Cys Cys Gly Cys Thr
290 295 300

Ala Gly Ala Cys Cys Cys Ala Cys Thr Cys Gly Ala Gly Gly Ala Ala
305 310 315 320

Ala Ala Cys Thr Ala Ala Ala Ala Cys Cys Thr Thr Gly Thr Gly Ala
325 330 335

Gly Ala Gly Ala Thr Gly Ala Ala Ala Gly Gly Asn Cys Ala Ala Ala
340 345 350

Gly Ala Cys Gly Thr Gly Gly Gly Gly Gly Ala Gly Gly Gly Gly Gly
355 360 365

Cys Cys Asn Thr Ala Ala Cys Cys Ala Thr Gly Ala Gly Gly Ala Cys
370 375 380

Cys Ala Gly Gly Thr Gly Thr Gly Thr Gly Thr Gly Thr Gly Thr Gly
385 390 395 400

Thr Gly Gly Gly Gly Thr Gly Gly Gly Cys
405 410

<210> 18
<211> 425
<212> PRT
<213> Human

<400> 18

Cys Cys Cys Gly Gly Gly Thr Ala Cys Cys Gly Ala Gly Cys Thr Cys
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Gly Ala Ala Thr Thr Cys Cys Gly Thr Thr Gly Asn Thr Gly Thr Cys
20 25 30

Gly Cys Cys Gly Thr Thr Gly Asn Thr Gly Thr Cys Gly Cys Ala Gly
35 40 45

Ala Thr Gly Cys Cys Cys Ala Thr Gly Cys Cys Cys Ala Thr Gly Cys
50 55 60

Cys Gly Ala Thr Thr Cys Thr Thr Cys Gly Ala Ala Ala Gly Cys Cys
65 70 75 80

Ala Thr Gly Thr Thr Gly Cys Cys Ala Gly Ala Gly Cys Cys Ala Ala
85 90 95

Cys Gly Thr Cys Ala Ala Gly Cys Ala Thr Cys Thr Cys Ala Ala Ala
100 105 110

Ala Thr Thr Cys Thr Cys Ala Ala Cys Ala Cys Thr Cys Cys Ala Ala
115 120 125

Ala Cys Thr Gly Thr Gly Cys Cys Cys Thr Thr Cys Ala Gly Ala Thr
130 135 140

Thr Gly Thr Ala Gly Cys Cys Cys Gly Gly Cys Thr Gly Ala Ala Gly
145 150 155 160

Ala Ala Cys Ala Ala Cys Ala Ala Cys Ala Gly Ala Cys Ala Ala Gly
165 170 175

Thr Gly Thr Gly Cys Ala Thr Thr Gly Ala Cys Cys Cys Gly Ala Ala
180 185 190

Gly Cys Thr Ala Ala Ala Gly Thr Gly Gly Ala Thr Thr Cys Ala Gly
195 200 205

Gly Ala Gly Thr Ala Cys Cys Thr Gly Gly Ala Gly Ala Ala Ala Gly
210 215 220

Cys Thr Thr Thr Ala Ala Ala Cys Ala Ala Gly Thr Ala Ala Gly Cys
225 230 235 240

Ala Cys Ala Ala Cys Ala Gly Cys Cys Ala Ala Ala Ala Ala Gly Gly
245 250 255

Ala Cys Thr Thr Thr Cys Cys Gly Cys Thr Ala Gly Ala Cys Cys Cys
260 265 270

Ala Asn Thr Cys Gly Ala Gly Ala Ala Ala Ala Cys Thr Ala Ala Ala
275 280 285

Ala Cys Cys Thr Thr Gly Thr Gly Ala Gly Ala Gly Ala Thr Gly Ala
290 295 300

Ala Ala Gly Gly Gly Cys Ala Ala Ala Gly Ala Cys Gly Thr Gly Gly
305 310 315 320

Gly Gly Gly Gly Ala Gly Gly Gly Gly Gly Gly Cys Thr Thr Ala Ala
325 330 335

Cys Cys Ala Thr Gly Ala Gly Gly Ala Cys Cys Ala Gly Gly Thr Gly
340 345 350

Thr Gly Thr Gly Thr Gly Thr Asn Gly Gly Gly Thr Gly Gly Gly Gly
355 360 365

Cys Ala Cys Ala Thr Thr Gly Gly Ala Thr Cys Thr Thr Asn Gly Ala
370 375 380

Thr Cys Gly Gly Gly Cys Cys Thr Gly Ala Gly Gly Thr Thr Thr Gly
385 390 395 400

Gly Cys Ala Gly Cys Ala Thr Thr Thr Ala Gly Ala Cys Cys Cys Thr
405 410 415

Gly Gly Ala Thr Thr Ala Thr Gly Asn
420 425

<210> 19
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<212> PRT
<213> Human

<400> 19

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Cys Ala Gly Ala Thr Gly Cys Cys Cys Ala Thr Gly Cys Cys Gly Ala
1               5                  10                  15

Thr Thr Cys Thr Thr Cys Gly Ala Ala Ala Gly Cys Cys Ala Thr Gly
            20                  25                  30

Thr Thr Gly Cys Cys Ala Gly Ala Gly Cys Cys Ala Ala Cys Gly Thr
        35                  40                  45

Cys Ala Ala Gly Cys Ala Thr Cys Thr Cys Ala Ala Ala Ala Thr Thr
    50                  55                  60

Cys Thr Cys Ala Ala Cys Ala Cys Thr Cys Cys Ala Ala Ala Cys Thr
65                  70                  75                  80

Gly Thr Gly Cys Cys Cys Thr Thr Cys Ala Gly Ala Thr Thr Gly Thr
                85                  90                  95

Ala Gly Cys Cys Cys Gly Gly Cys Thr Gly Ala Ala Gly Ala Ala Cys
            100                 105                 110

Ala Ala Cys Ala Ala Cys Ala Gly Ala Cys Ala Ala Gly Thr Gly Thr
        115                 120                 125

Gly Cys Ala Thr Thr Gly Ala Cys Cys Cys Gly Ala Ala Gly Cys Thr
    130                 135                 140

Ala Ala Ala Gly Thr Gly Gly Ala Thr Thr Cys Ala Gly Gly Ala Gly
145                 150                 155                 160

Thr Ala Cys Cys Thr Gly Gly Ala Gly Gly Ala Ala Ala Gly Cys Thr
                165                 170                 175

Thr Thr Ala Ala Ala Cys Ala Ala Gly Thr Ala Ala Gly Cys Ala Cys
            180                 185                 190

Ala Ala Cys Ala Gly Cys Cys Ala Ala Ala Ala Ala Gly Gly Ala Cys
        195                 200                 205

Thr Thr Thr Cys Cys Gly Cys Thr Ala Gly Ala Cys Cys Cys Ala Cys
    210                 215                 220
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Thr Cys Gly Ala Gly Gly Ala Ala Ala Ala Cys Thr Ala Ala Ala Ala
225                 230                 235                 240

Cys Cys Thr Thr Gly Thr Gly Ala Gly Ala Gly Ala Thr Gly Ala Ala
                245                 250                 255

Ala Gly Gly Gly Cys Ala Ala Asn Gly Ala Cys Gly Thr Asn Gly Asn
            260                 265                 270

Gly Gly Ala Gly Gly Gly Gly Gly Gly Cys Thr Thr Ala Ala Cys Cys
        275                 280                 285

Ala Thr Gly Ala Gly Gly Ala Cys Cys Ala Gly Gly Thr Gly Thr Gly
    290                 295                 300

Thr Asn Thr Gly Gly Gly Gly Gly Thr Gly Gly Gly Thr Ala Cys Ala
305                 310                 315                 320

Thr Thr Gly Asn Ala Thr Cys Thr Thr Gly Gly Gly Ala Thr Cys Gly
                325                 330                 335

Gly Gly Cys Cys Thr Gly Ala Gly Gly Thr Thr Asn Gly Gly Cys Ala
            340                 345                 350

Gly Ala Ala Thr Thr Thr Asn Gly Asn Cys Cys Cys Thr Gly Asn Ala
        355                 360                 365

Thr Thr Thr Asn Thr Gly Gly Asn
    370                 375
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<211> 377
<212> PRT
<213> Human

<400> 20

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Cys Ala Gly Ala Thr Gly Asn Cys Cys Ala Thr Gly Cys Cys Gly Ala
1               5                   10                  15

Thr Thr Cys Thr Thr Cys Gly Ala Ala Ala Gly Cys Cys Ala Thr Gly
            20                  25                  30

Thr Thr Gly Cys Cys Ala Gly Ala Gly Cys Cys Ala Ala Cys Gly Thr
        35                  40                  45

Cys Ala Ala Gly Cys Ala Thr Cys Thr Cys Ala Ala Ala Ala Thr Thr
    50                  55                  60
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Cys Thr Cys Ala Ala Cys Ala Cys Thr Cys Cys Ala Ala Ala Cys Thr
65                  70                  75                  80

Gly Thr Gly Cys Cys Cys Thr Thr Cys Ala Gly Ala Thr Thr Gly Thr
                85                  90                  95

Ala Gly Cys Cys Cys Gly Gly Cys Thr Gly Ala Ala Gly Ala Ala Cys
            100                 105                 110

Ala Ala Cys Ala Ala Cys Ala Gly Ala Cys Ala Ala Gly Thr Gly Thr
        115                 120                 125

Gly Cys Ala Thr Thr Gly Ala Cys Cys Cys Gly Ala Ala Gly Cys Thr
    130                 135                 140

Ala Ala Ala Gly Thr Gly Gly Ala Thr Thr Cys Ala Gly Gly Ala Gly
145                 150                 155                 160

Thr Ala Cys Cys Thr Gly Gly Ala Gly Thr Ala Ala Ala Gly Cys Thr
                165                 170                 175

Thr Thr Ala Ala Ala Cys Ala Ala Gly Thr Ala Ala Gly Cys Ala Cys
            180                 185                 190

Ala Ala Cys Ala Gly Asn Cys Ala Ala Ala Ala Ala Gly Gly Ala Cys
        195                 200                 205

Thr Thr Thr Cys Cys Gly Cys Thr Ala Gly Ala Cys Cys Cys Ala Cys
    210                 215                 220

Thr Cys Gly Ala Gly Gly Ala Ala Ala Ala Cys Thr Ala Ala Ala Ala
225                 230                 235                 240

Cys Cys Thr Thr Gly Thr Gly Ala Gly Ala Gly Ala Thr Gly Ala Ala
                245                 250                 255

Ala Gly Gly Gly Cys Ala Asn Thr Gly Thr Thr Asn Thr Thr Gly Thr
            260                 265                 270

Gly Gly Ala Gly Gly Gly Gly Gly Cys Cys Thr Thr Ala Ala Cys Cys
        275                 280                 285

Ala Thr Gly Ala Gly Gly Ala Cys Cys Ala Gly Gly Thr Gly Thr Gly
    290                 295                 300
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Thr Gly Thr Gly Thr Gly Gly Gly Gly Thr Gly Gly Gly Cys Ala Cys
305 310 315 320

Ala Thr Asn Gly Asn Ala Thr Cys Thr Gly Gly Gly Thr Ala Thr Cys
325 330 335

Gly Gly Gly Cys Cys Thr Gly Ala Gly Gly Thr Thr Thr Gly Asn Cys
340 345 350

Ala Gly Cys Ala Thr Thr Thr Ala Gly Asn Cys Cys Cys Thr Gly Asn
355 360 365

Ala Thr Thr Thr Ala Thr Asn Gly Cys
370 375

<210> 21
<211> 292
<212> PRT
<213> Human

<400> 21

Cys Cys Ala Thr Gly Thr Thr Cys Cys Ala Ala Gly Ala Asn Cys Cys
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20 25 30

Ala Thr Cys Thr Cys Ala Ala Cys Ala Cys Asn Cys Cys Cys Ala Ala
35 40 45

Cys Thr Asn Thr Thr Cys Cys Cys Thr Thr Cys Ala Gly Ala Thr Thr
50 55 60

Gly Thr Ala Gly Cys Cys Cys Gly Gly Cys Thr Gly Ala Ala Gly Ala
65 70 75 80

Ala Cys Ala Ala Cys Ala Ala Cys Ala Ala Gly Ala Cys Ala Ala Gly
85 90 95

Thr Gly Thr Gly Cys Ala Thr Thr Thr Gly Ala Cys Cys Cys Gly Ala
100 105 110

Ala Gly Cys Thr Ala Ala Ala Ala Gly Thr Gly Gly Ala Thr Thr Cys
115 120 125

Ala Gly Gly Ala Gly Thr Ala Cys Cys Cys Thr Gly Gly Ala Gly Ala
130 135 140

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Ala Ala Gly Cys Thr Thr Thr Ala Ala Ala Cys Ala Ala Gly Thr Ala
145                 150                 155                 160

Ala Gly Cys Ala Cys Ala Ala Cys Ala Gly Cys Cys Cys Ala Ala Ala
                165                 170                 175

Ala Ala Gly Gly Ala Cys Thr Thr Thr Cys Cys Gly Cys Thr Ala Gly
            180                 185                 190

Ala Cys Cys Cys Ala Cys Thr Cys Gly Ala Gly Gly Ala Ala Ala Ala
        195                 200                 205

Cys Thr Ala Ala Ala Ala Cys Cys Thr Thr Gly Thr Gly Ala Gly Ala
    210                 215                 220

Gly Ala Thr Gly Ala Ala Ala Gly Gly Asn Cys Ala Ala Ala Gly Ala
225                 230                 235                 240

Cys Gly Thr Gly Gly Gly Gly Gly Ala Gly Gly Gly Gly Gly Cys Cys
                245                 250                 255

Thr Thr Ala Ala Cys Cys Ala Thr Gly Ala Gly Gly Ala Cys Cys Ala
            260                 265                 270

Gly Gly Thr Gly Thr Gly Thr Gly Thr Gly Thr Gly Gly Gly Gly Thr
        275                 280                 285

Gly Gly Gly Cys
    290
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<210> 22
<211> 75
<212> PRT
<213> Human

<400> 22

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Ala Asn Thr Gly Ala Ala Gly Gly Gly Cys Cys Ala Ala Ala Gly Ala
1               5                   10                  15

Cys Gly Thr Gly Gly Gly Gly Gly Ala Gly Gly Gly Gly Gly Cys Cys
            20                  25                  30

Thr Thr Ala Ala Cys Cys Cys Ala Thr Thr Gly Ala Gly Gly Ala Cys
        35                  40                  45

Cys Ala Gly Asn Thr Gly Thr Gly Thr Gly Thr Gly Gly Gly Gly Gly
    50                  55                  60
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Thr Gly Gly Gly Gly Gly Thr Gly Gly Cys Cys
65 70 75

<210> 23
<211> 462
<212> PRT
<213> Human

<220>
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<222> (2)..(2)
<223> X = to any amino acid

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> X = to any amino acid

<220>
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<222> (20)..(20)
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<223> X = to any amino acid

<220>
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<223> X = to any amino acid

<400> 23

Gly Xaa Xaa Gly Ala Gly Thr Gly Thr Gly Gly Gly Ala Cys Gly Gly

1 5 10 15

Gly Gly Gly Xaa Gly Xaa Ala Ala Thr Thr Ala Ala Gly Ser Tyr Met
20 25 30

Gly Gly Gly Thr Ala Tyr Ser Gly Ala Gly Cys Trp Cys Gly Arg Arg
35 40 45

Lys Thr Ser Cys Gly Thr Thr Gly Gly Thr Gly Thr Met Gly Met Cys
50 55 60

Arg Thr Thr Gly Xaa Xaa Thr Gly Lys Met Gly Ala Ala Xaa Gly Ala
65 70 75 80

Cys Ala Gly Ala Thr Gly Ser Cys Cys Ala Thr Gly Cys Cys Gly Ala
85 90 95

Thr Thr Cys Thr Thr Cys Gly Ala Ala Ala Gly Cys Cys Ala Thr Gly
100 105 110

Thr Thr Gly Cys Met Ala Gly Ala Gly Cys Cys Ala Ala Cys Gly Thr
115 120 125

Cys Ala Ala Gly Cys Ala Thr Cys His Cys Ala Ala Ala Ala Thr Thr
130 135 140

Cys Thr Cys Ala Ala Cys Ala Cys Thr Cys Cys Met Ala Ala Cys Thr
145 150 155 160

Gly Thr Gly Cys Cys Cys Thr Thr Cys Ala Gly Ala Thr Thr Gly Thr
165 170 175

Ala Gly Cys Cys Cys Gly Gly Cys Thr Gly Ala Ala Gly Ala Ala Cys
180 185 190

Ala Ala Cys Ala Ala Cys Ala Ala Gly Ala Cys Ala Ala Gly Thr Gly
195 200 205

Thr Gly Thr Gly Cys Ala Thr Thr Gly Ala Cys Cys Cys Gly Ala Ala
210 215 220

Gly Cys Thr Ala Ala Ala Ala Gly Thr Gly Gly Ala Thr Thr Cys Ala
225 230 235 240

Gly Gly Ala Gly Thr Ala Cys Cys Thr Gly Gly Ala Gly Lys Ala Ala
245 250 255

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Ala Gly Cys Thr Thr Thr Ala Ala Ala Cys Ala Ala Gly Thr Ala Ala
            260                 265                 270

Gly Cys Ala Cys Ala Ala Cys Ala Gly Cys Cys Cys Ala Ala Ala Ala
        275                 280                 285

Ala Gly Gly Ala Cys Thr Thr Thr Cys Cys Gly Cys Thr Ala Gly Ala
    290                 295                 300

Cys Cys Cys Ala Cys Thr Cys Gly Ala Gly Gly Ala Ala Ala Ala Cys
305                 310                 315                 320

Thr Ala Ala Ala Ala Cys Cys Thr Thr Gly Thr Gly Ala Gly Ala Gly
                325                 330                 335

Ala Thr Gly Ala Ala Ala Gly Gly Ser Cys Ala Ala Trp Gly Ala Cys
            340                 345                 350

Gly Thr Lys Gly Lys Gly Gly Ala Gly Gly Gly Gly Gly Ser Cys Thr
        355                 360                 365

Thr Ala Ala Cys Cys Cys Ala Thr Thr Gly Ala Gly Gly Ala Cys Cys
    370                 375                 380

Ala Gly Gly Thr Gly Thr Gly Thr Gly Thr Gly Gly Gly Gly Gly Thr
385                 390                 395                 400

Gly Gly Cys Ala Cys Ala Thr Thr Gly Xaa Ala Thr Cys Thr Thr Gly
                405                 410                 415

Gly Gly Ala Thr Cys Gly Gly Gly Cys Cys Thr Gly Ala Gly Gly Thr
            420                 425                 430

Thr Thr Gly Ser Cys Ala Gly Cys Ala Thr Thr Thr Ala Gly Ala Cys
        435                 440                 445

Cys Cys Thr Gly Ser Ala Thr Thr Thr Ala Thr Arg Gly Cys
    450                 455                 460
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